

FIG. 1

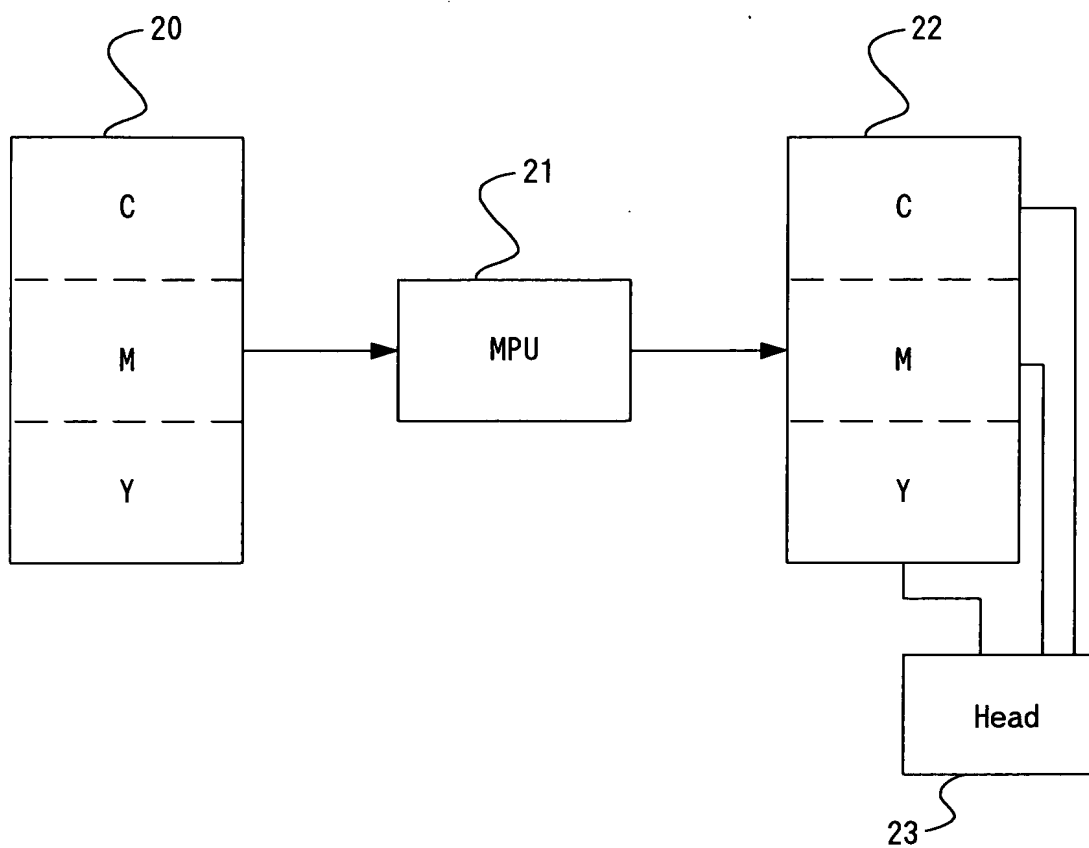
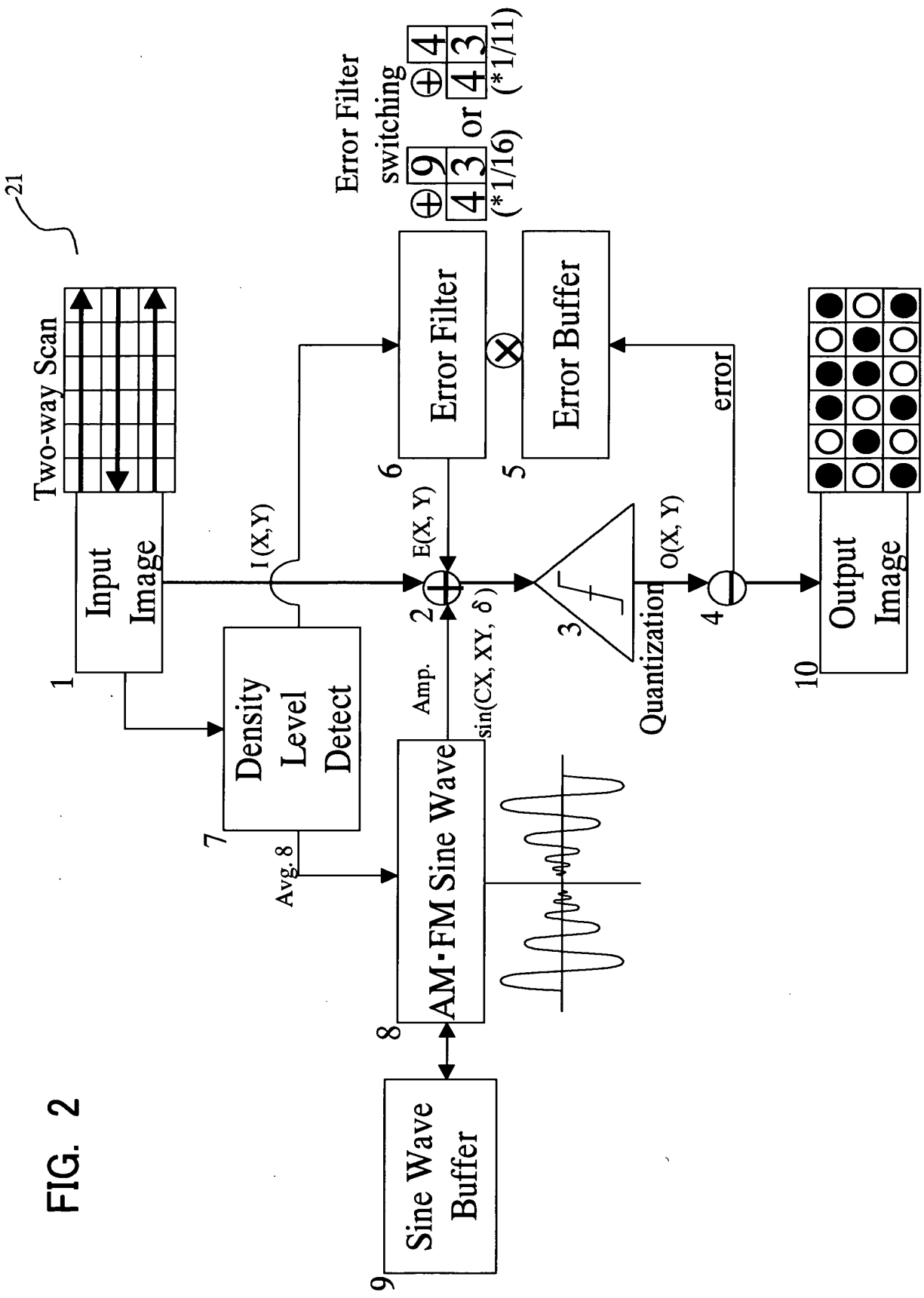


FIG. 2



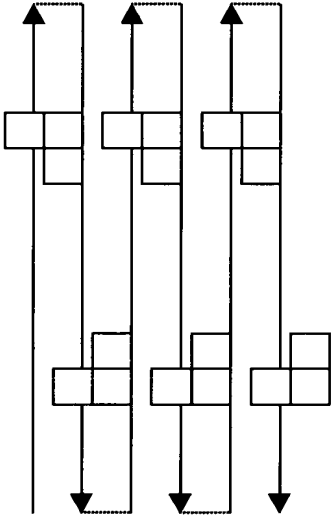


FIG. 3

FIG. 3 is a schematic diagram of a system for controlling a vehicle. The system includes a processor 302, a memory 304, and a communication interface 306. The processor 302 is configured to receive data from the communication interface 306 and to control the vehicle based on the received data. The memory 304 is configured to store data received from the communication interface 306 and to provide data to the processor 302. The communication interface 306 is configured to communicate with the vehicle and to receive data from the vehicle.

FIG. 4

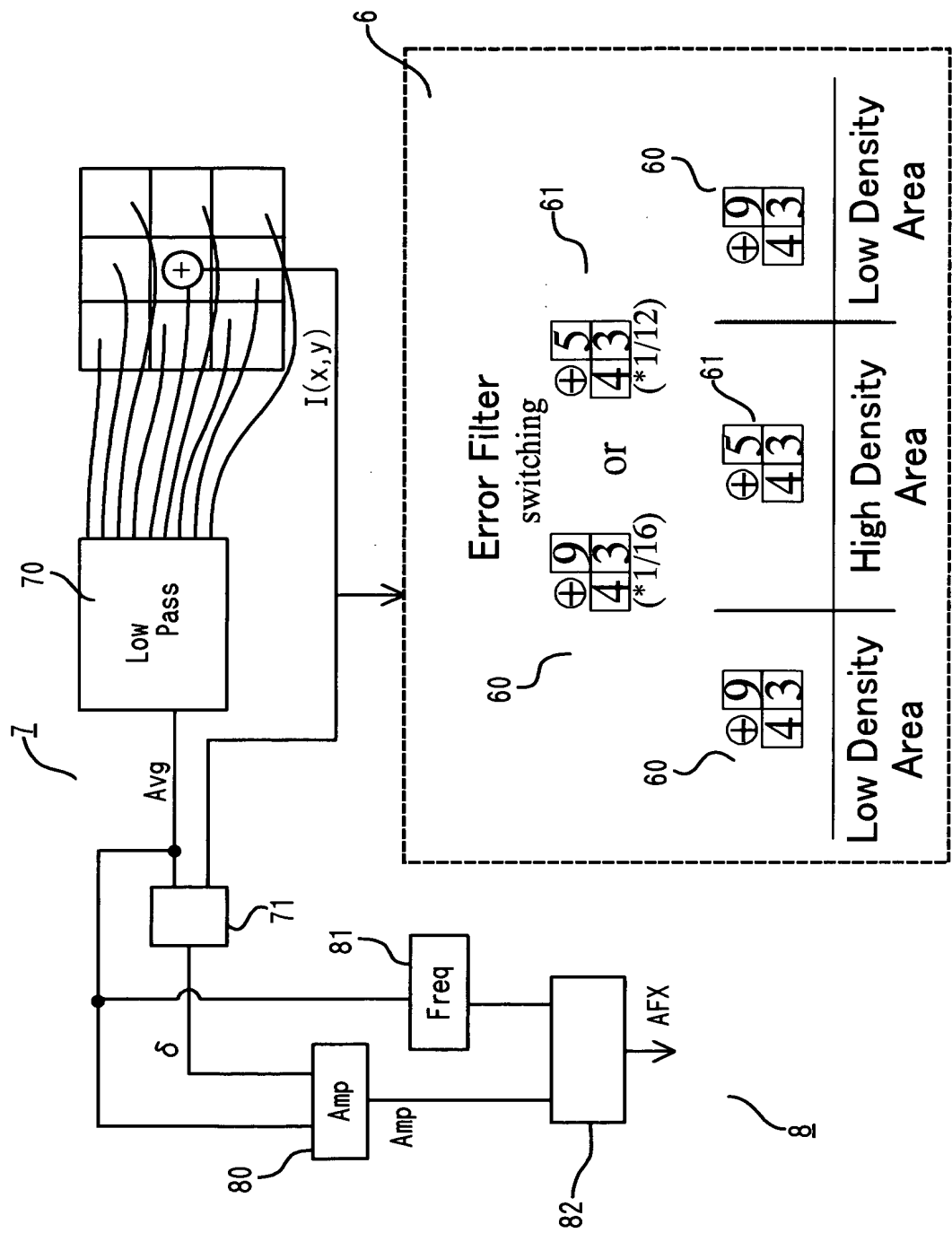


FIG. 5A

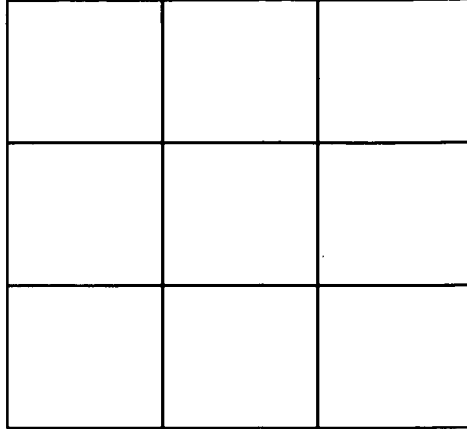


FIG. 5B

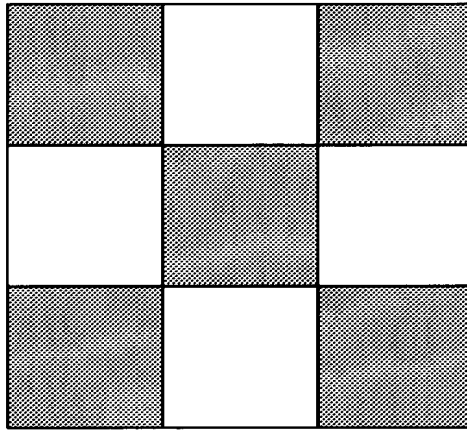


FIG. 5C

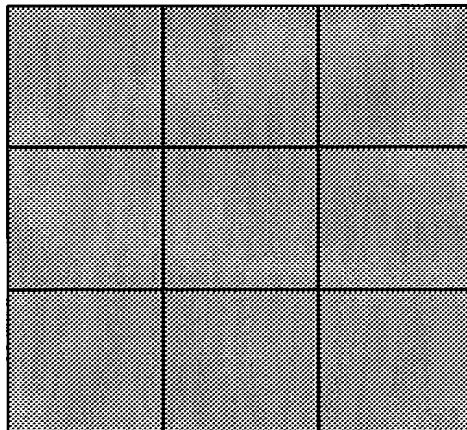


FIG. 6A

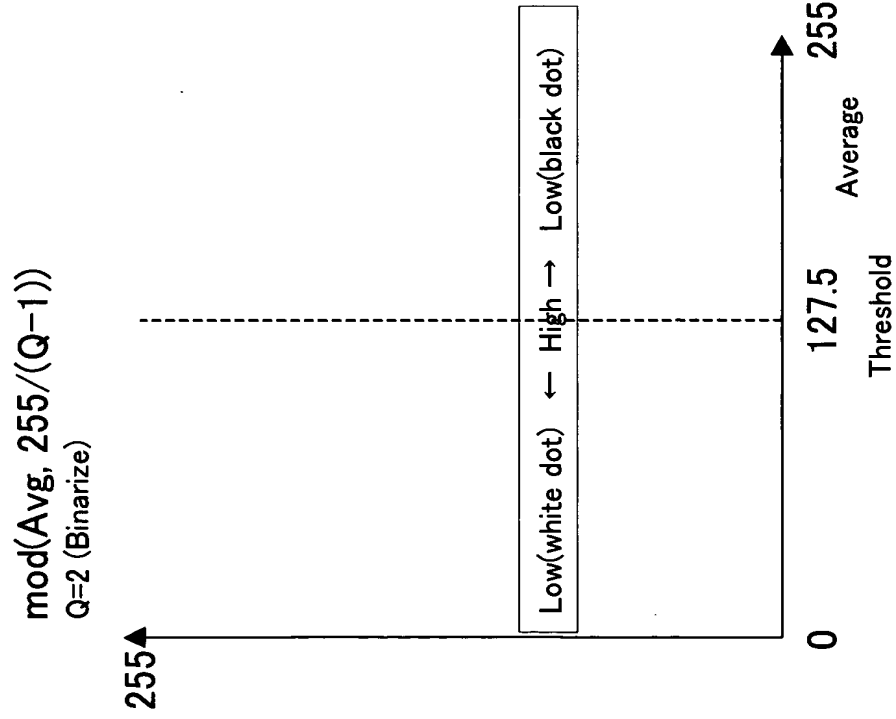


FIG. 6B

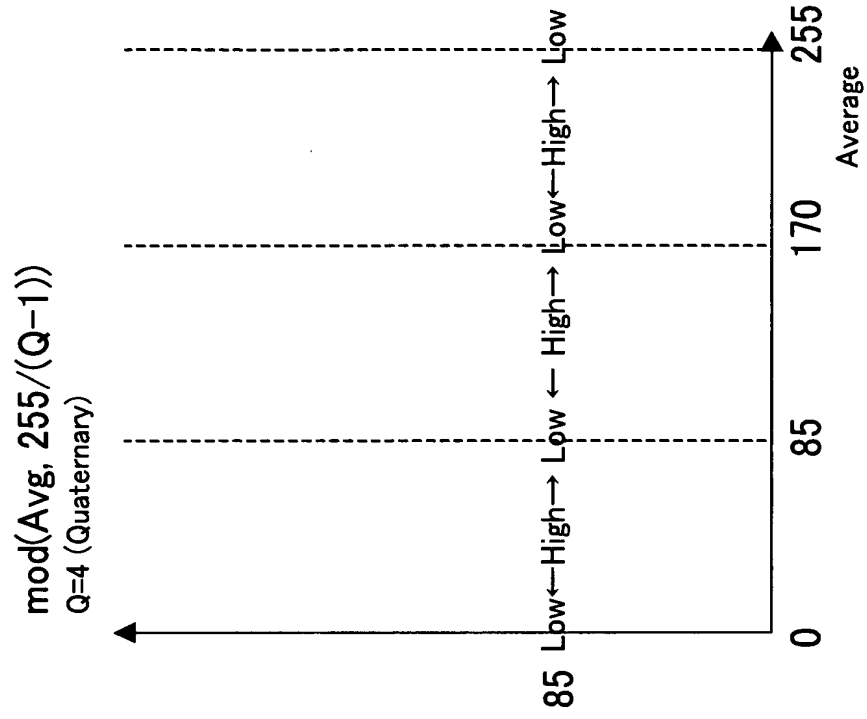


FIG. 7A

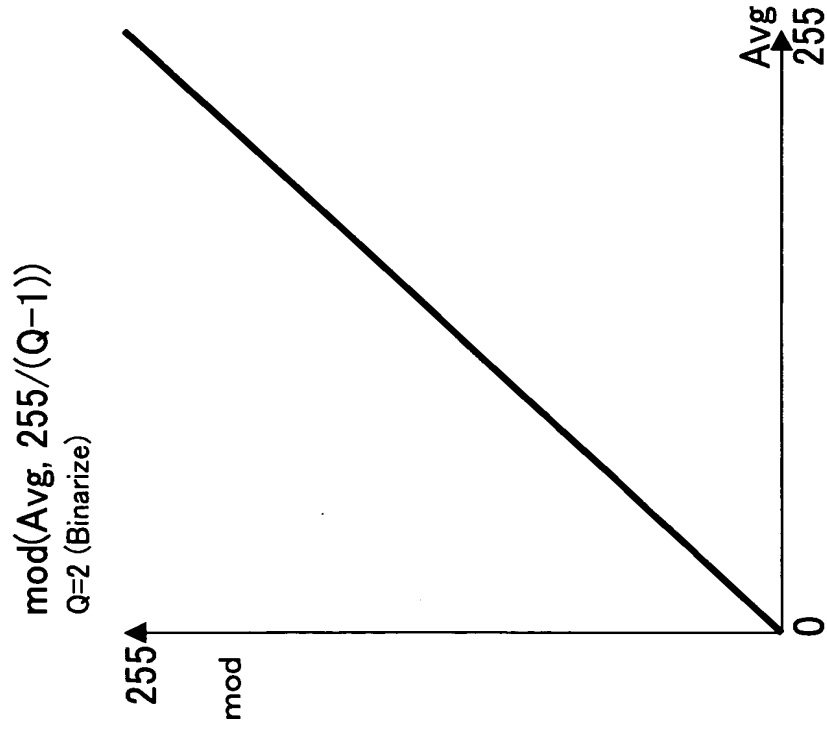


FIG. 7B

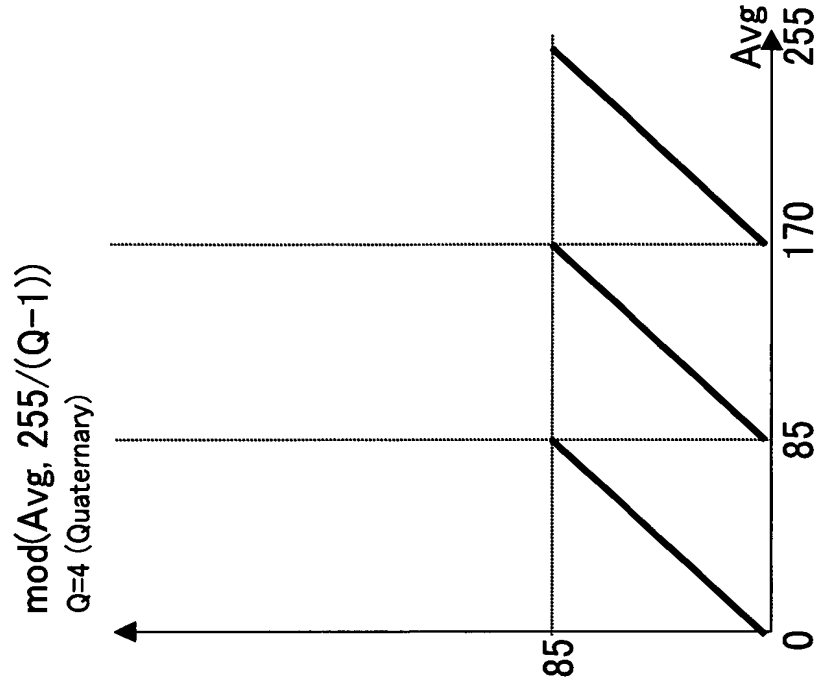


FIG. 8A

$$\text{mod}(\text{Avg}, 255/(Q-1)) - 255/2(Q-1)$$

Q=2 (Binarize)

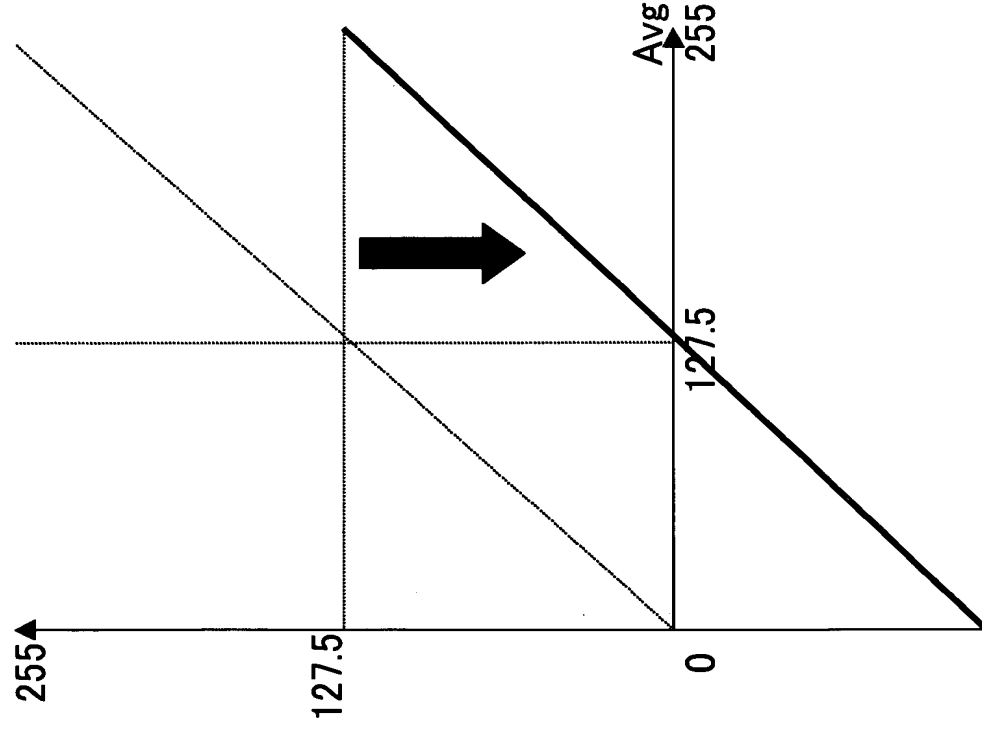


FIG. 8B

$$\text{mod}(\text{Avg}, 255/(Q-1)) - 255/2(Q-1)$$

Q=4 (Quaternary)

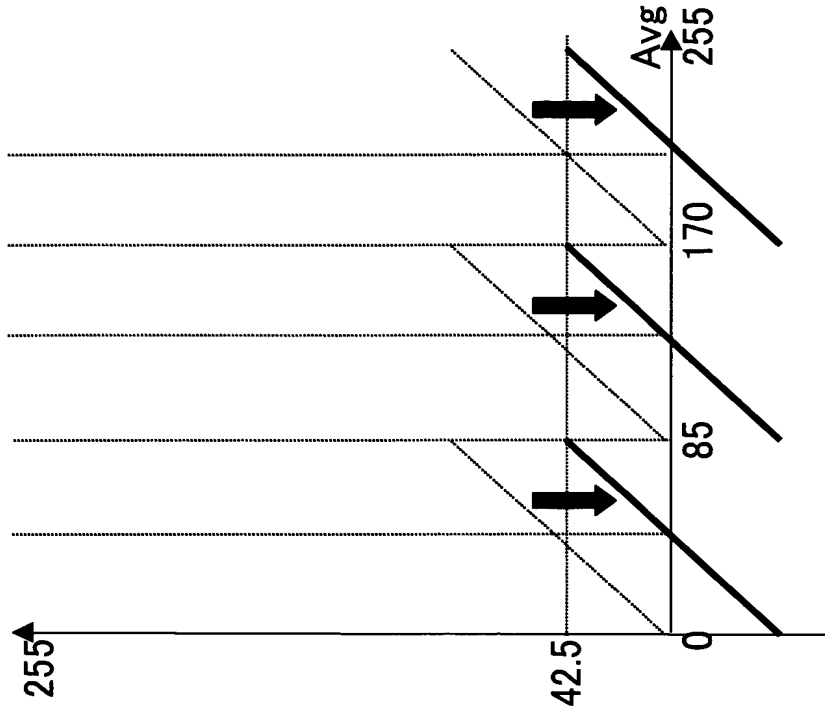




FIG. 9A

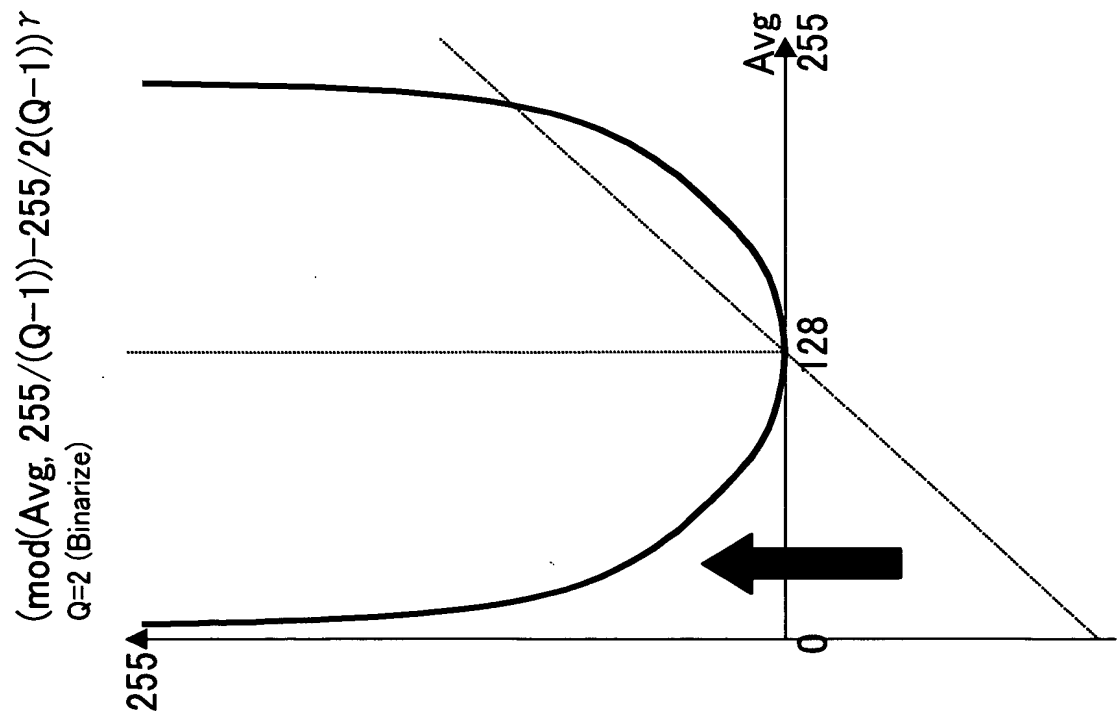
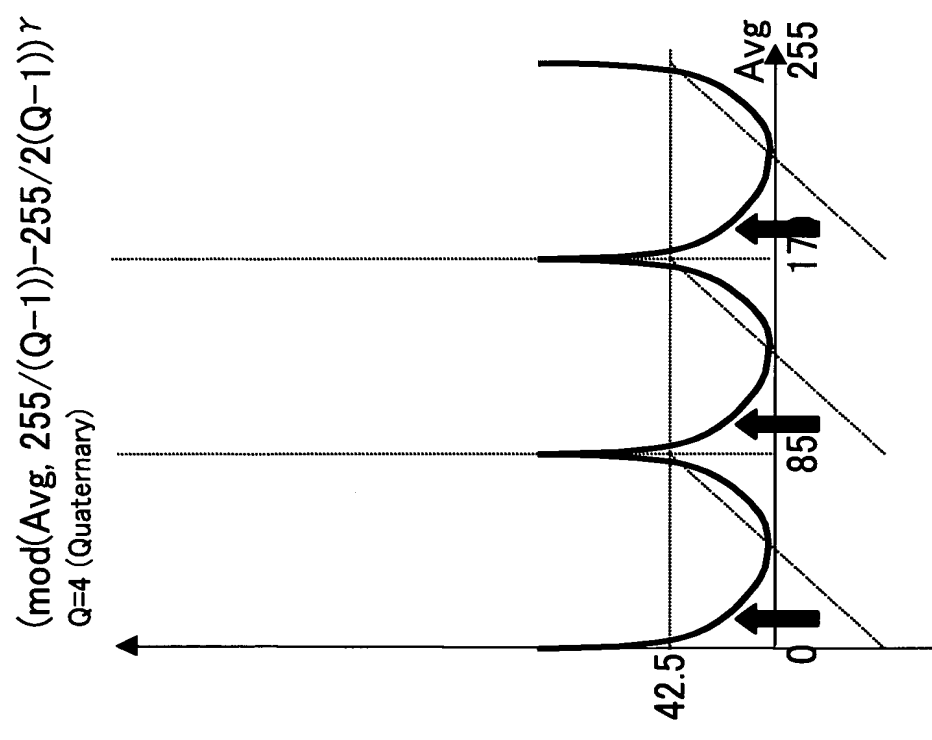
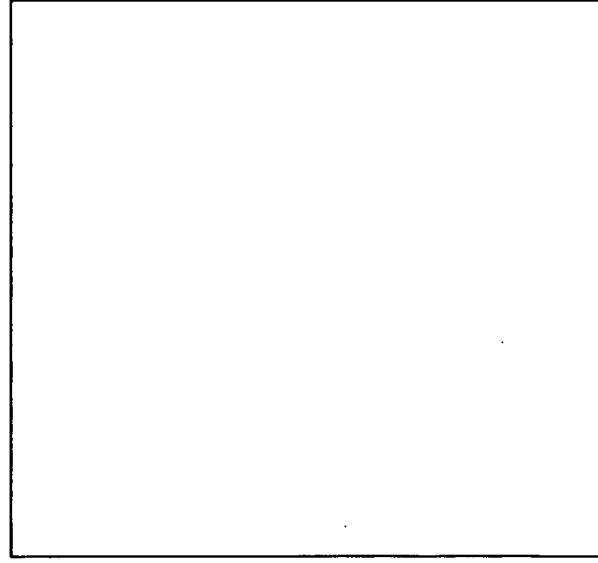


FIG. 9B



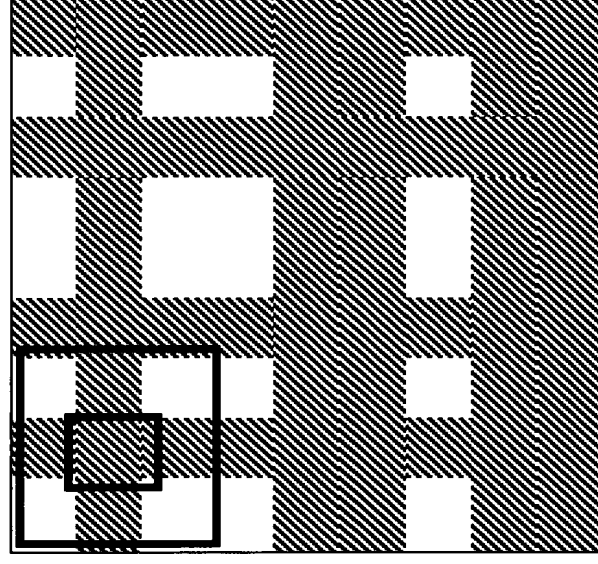


Low Density Variation



Amp strongly functions,  
as  $\delta$  (difference) is small

$\delta$  :  $\rightarrow$



High Density Variation



$\delta$  is large, Amp is small

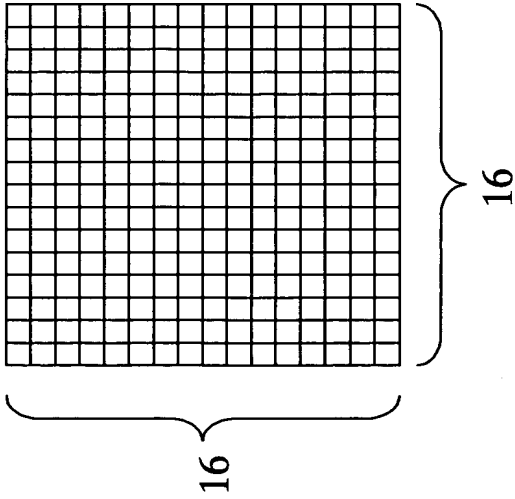


Prevent unclear edge by adding  
AM-FM screen, thereby uniform dot  
arrangement

FIG. 10

FIG. 11

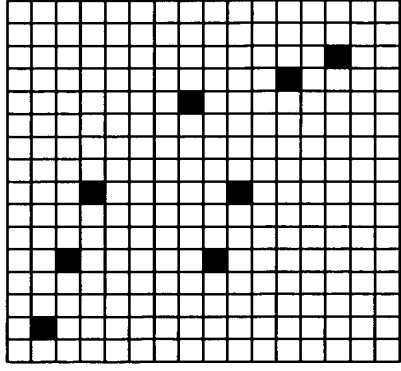
Uniform Density Level 247



Error Diffusion



248 White Dot, 8 Black Dot

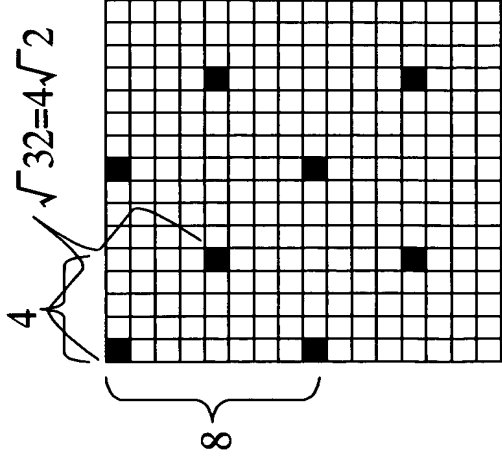


One-dimension: One Black Dot in 32 Pixel



Two-dimension:  $2 \times \sqrt{32} \times \sqrt{1/2} = \text{One Black Dot at 8 Pixel Space}$

Ideal Dot Interval



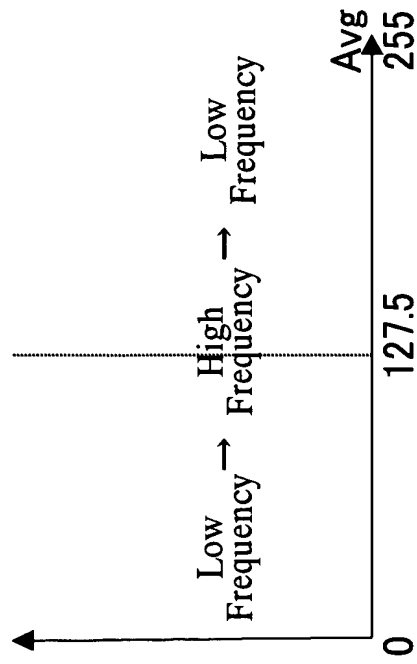
Frequency of AM-FM Function  

$$\frac{1}{\text{Frq}} = 2\pi / (2 \times \sqrt{32} \times \sqrt{1/2})$$

$$= \pi / (\sqrt{32} \times \sqrt{1/2}) = \pi / 4$$

FIG. 12

Binarize  
 if  $\text{Avg} > 127.5$   
 $\text{Frq} = \sqrt{(1/2) \times \sqrt{255 / (255 - \text{Avg})}} / \pi$   
 else  
 $\text{Frq} = \sqrt{(1/2) \times \sqrt{255 / \text{Avg}}} / \pi$



Quaternary  
 if  $\text{mod}(\text{Avg}, 85) - 42.5 > 0$   
 $\text{Frq} = \sqrt{(1/2) \cdot \sqrt{[85 / (85 - \text{mod}(\text{Avg}, 85))]} / \pi$   
 else  
 $\text{Frq} = \sqrt{(1/2) \cdot \sqrt{[85 / \text{mod}(\text{Avg}, 85)]}} / \pi$

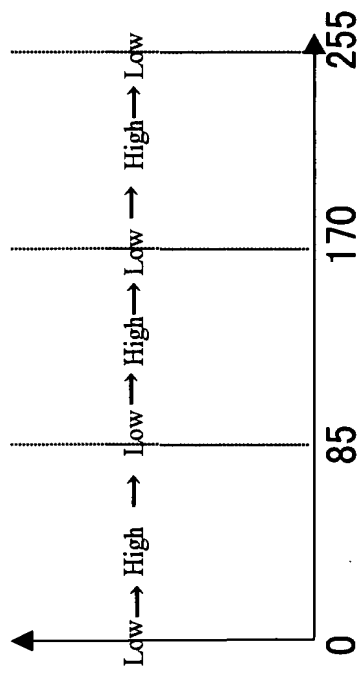
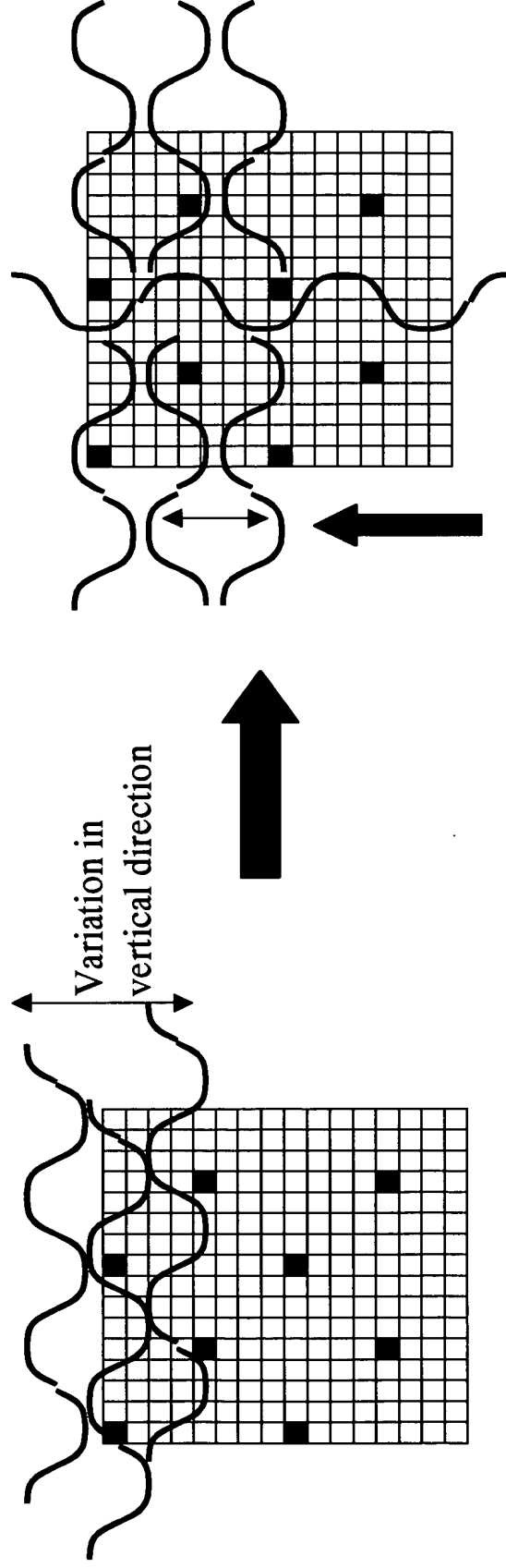


FIG. 13

Sine wave is varied to two dimension  
(Reset advance of sine wave)



Sine wave having two dimension



Advance sine wave to vertical direction  
by referring stored cycle of AM-FM sine wave  
at previous scan line

FIG. 14

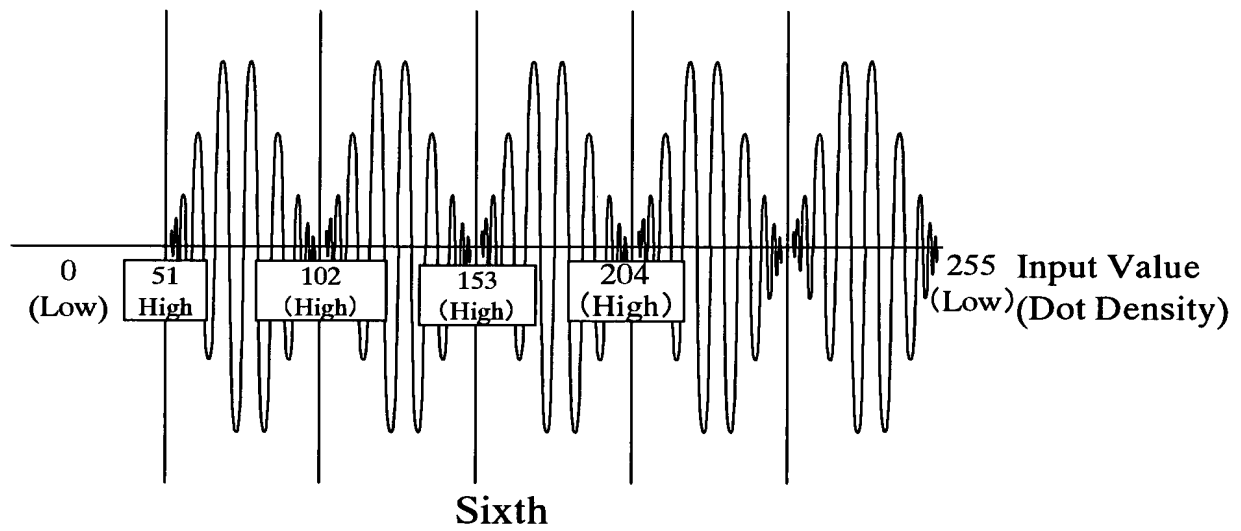
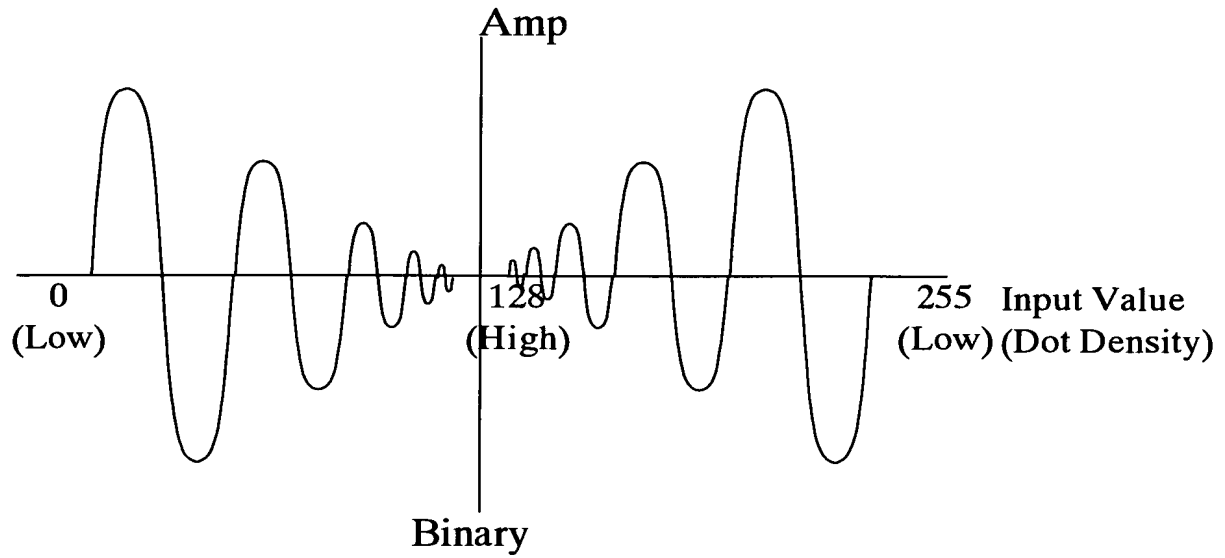


FIG. 15

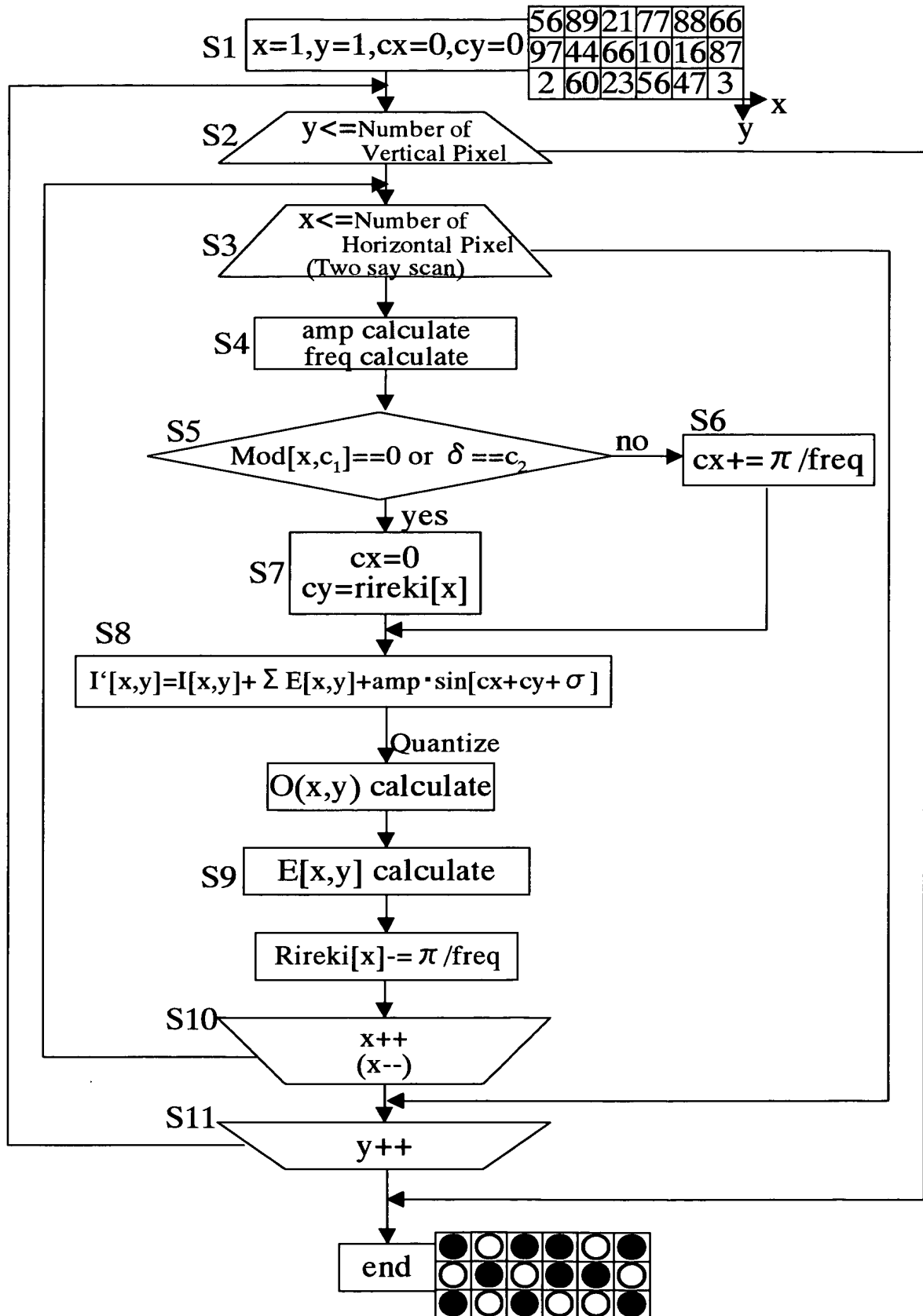
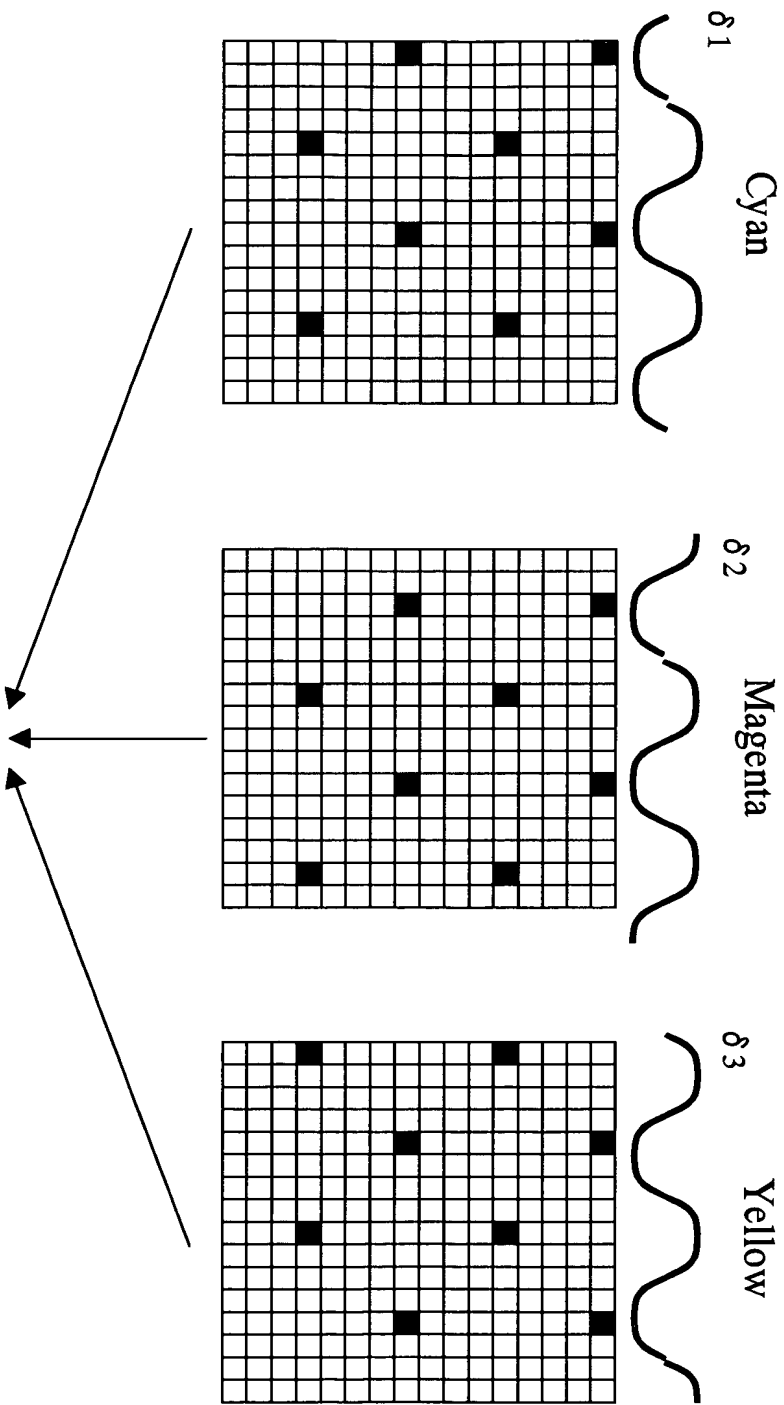


FIG. 16



Smooth Density Variation by arranging together C, M, Y dot

FIG. 16 is a diagram illustrating the arrangement of dots for smooth density variation by arranging together C, M, Y dot.



FIG. 17

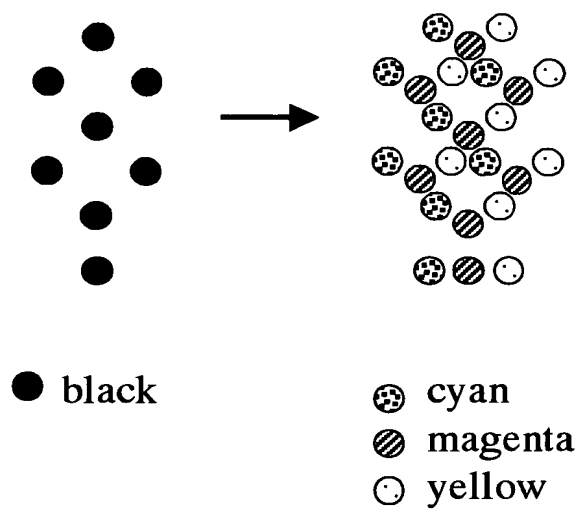


FIG. 18

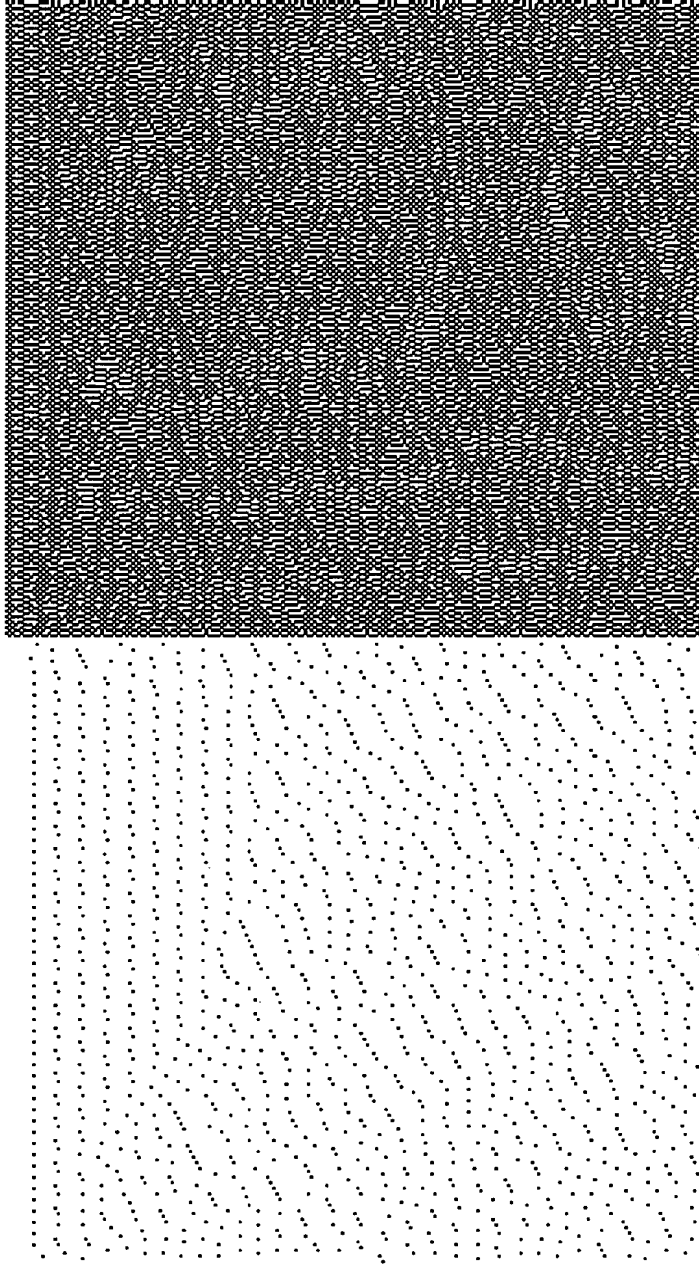


FIG. 19

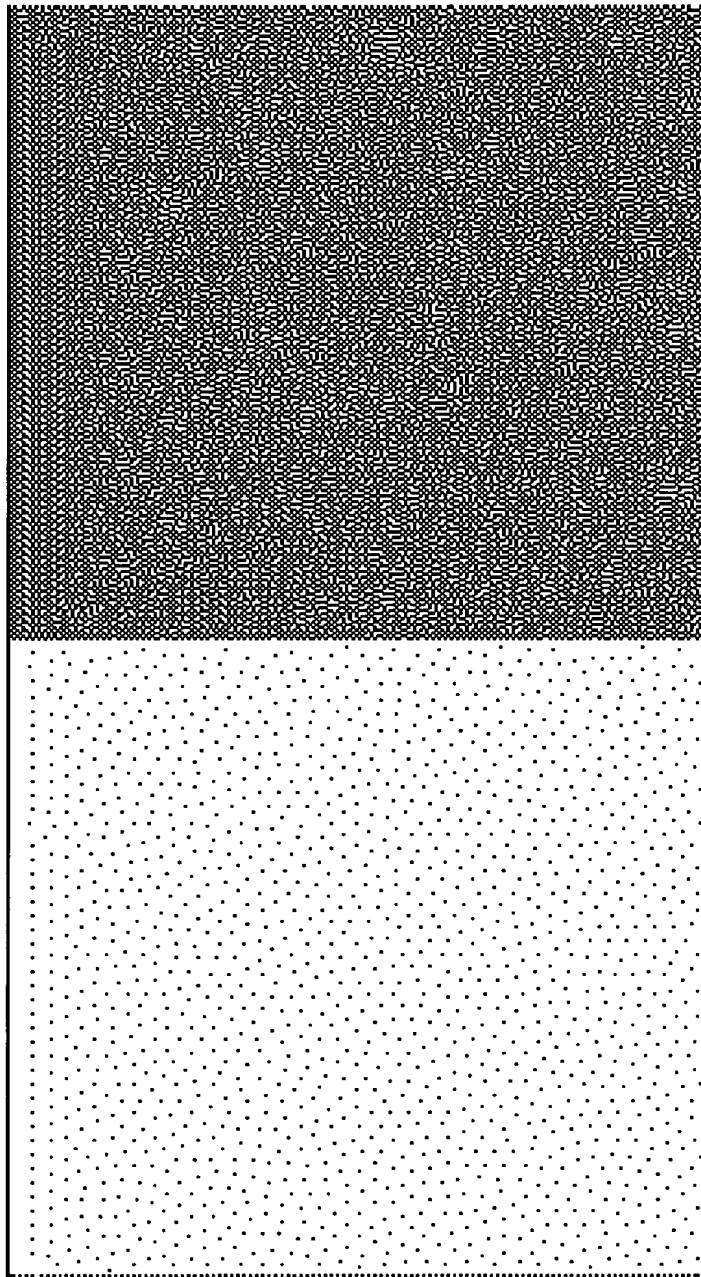


FIG. 20

